

Hey Coach, Does This Stuff Work? What to Know When Discussing Dietary Supplements

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Article:

On any given day, any number of young athletes in schools and on the playing fields are holding up advertisements for dietary supplements and asking, "Hey coach, does this stuff work" How physical and sports educators answer that question could mean the difference between sound advice and finding a good lawyer. Even though a number of sports stars such as Mark McGwire and John Elway can be found extolling the benefits of dietary supplements, recommending or advising these products can have potential legal, medical, and ethical consequences.

What are Dietary Supplements?

Dietary supplements were first regulated in 1938 under the Food, Drug, and Cosmetic Act. For many years their definition was a simple one: "A product in capsule, tablet, or liquid form that provides an essential nutrient - such as a vitamin, an essential mineral, or a protein" (Food Additive Amendment Act, 1958). Through intense legislation on the part of the dietary supplement industry, that definition has been expanded to:

"A product (other than tobacco) that is intended to supplement the diet that bears or contains one or more of the following dietary ingredients: a vitamin, a mineral, an herb or other botanical, an amino acid, a dietary substance for use by man to supplement the diet by increasing the total daily intake, or a concentrate, metabolite, constituent, extract, or combinations of these ingredients, is intended for ingestion in pill, capsule, tablet, or liquid form, and is not represented for use as a conventional food or as the sole item of a meal or diet" (Dietary Supplement Health and Education Act, 1994).

In recent years, the Food and Drug Administration (FDA) has proposed stricter guidelines to ensure the safety and efficacy of these products. The FDA admits there are no guidelines established to test dietary supplements before they are placed on the market, as these products are currently neither recognized as food or drug. The lack of regulated testing standards has resulted in ingredients such as ecdysterone, an insect hormone with no known use in humans; levodopa, a prescription medication; and animal glandular material being found in dietary supplements (Philen, et al, 1992). In 1992, approximately 3,400 unique, non-prescription dietary supplement products were produced by 600 manufacturers with retail sales of roughly 3.3 billion dollars annually (FDA, 1992). In 1996 alone, consumers spent more than \$6.5 billion on dietary supplements according to Packaged Facts Inc., a market research firm in New York City (FDA, 1998). Just two years later consumers spent \$12 billion on dietary supplements according to *Nutrition Business Journal* in their September, 1998 Annual Industry Overview. Business is so good that General Nutrition Centers (GNC), one of the world's leading outlets for dietary supplements, anticipated opening 788 stores worldwide by the end of 1999 - that's a new store every 12 hours (PR News Wire, 3/02/1998).

What's Hot?

Athletes throughout time have used dietary supplements and will continue to do so. In the 1980's it was Amino Acids and Chromium Picolinate, In the 90's the two hottest dietary supplements were Creatine and Androstendione, or "Andro." Andro became a household word when professional baseball player Mark McGwire claimed that it had helped him in his quest to win the home run title. Both products are advertised to

build muscle and improve sports performance. And both products are easy to get - simply go to your local supermarket, health food store, or gym.

Potential Legal Issues

It's probably safe to say that most athletes self-prescribe dietary supplements. It's when they ask you in your role as educator "what you think" that you need to proceed with caution. In the article, "Clinical and Legal Aspects of Nonphysician Prescription of Vitamins, Amino Acids, and Other Nutritional Supplements," Clark, Sees, & Nathan (1988) state that:

"Nutritional supplements occupy a nonthreatening position in the mind of the average person. However, the ready availability and apparent harmlessness of nutritional supplements may be deceptive and can ... create potential medical and legal ramifications for nonphysician prescription."

Take the following scenario - an athlete comes to you with a specific complaint: "Coach, my throwing arm is sore," and you in turn recommend that that player take a dietary supplement to "treat" the pain. No big deal? Although each state's medical licensing board defines the practice of medicine within that state, some may say you have come dangerously close to practicing medicine without a license. By recommending a product based on symptomology, you have "diagnosed and prescribed" a treatment. Furthermore, any recommendation made without knowing a person's medical history can be disastrous. Case in point: In 1997 Anna Capati was given a list of dietary supplements to take by a trainer at a local gym. Unknown to the trainer was Capati's high blood pressure. Capati died as the result of a stroke brought on by a combination of high blood pressure and Ephreda, an ingredient found in one of the dietary supplements she was recommended. Her husband sued the gym, the trainer, and the dietary supplement company for \$320 million dollars (Hooper, 1999).

Taking a Stand

In anticipation of talking to athletes about dietary supplements, check out your school's policy regarding such issues. Many national interscholastic organizations have already addressed this topic. For example, in a position statement from the National Federation of State High School Association's (NFSHSA) *Sports Medicine Advisory Committee*:

"School personnel and coaches should not dispense any drug, medication or food supplement except with extreme caution and in accordance with policies developed in consultation with parents, health care professionals, and administrative personnel of the school or school district. In order to minimize health and safety risks to student athletes, maintain ethical standards and reduce liability risks, school personnel and coaches should never supply, recommend or permit the use of any drug, medication or food supplement solely for performance-enhancing purposes." (Press release, 8/27/98).

If your school does not currently have a policy statement, consult your school's athletic director and a school administrator to draft a policy. Organizations such as the NFSHSA can usually provide a working framework for such efforts.

Undeniably, the demand for information on these products will continue to grow. Even if nutrition is the sole intent of a recommendation, it is critical for the physical/sports educator to realize liability can still result from:

- failure to know the manufacturer of the supplement
- adverse reactions in combinations with other substances
- the content
- side effects
- contraindications
- dosage levels
- period of usage
- knowledge about the filler and binding agents

According to the U.S. Food and Drug Administration, the vast majority of dietary supplements have not been subject to stringent testing- standards and deaths have resulted from hypotoxicity, allergic reaction, abuse (Kamb et al., 1992), and disability including hospitalization (Barron & Van Scoy, 1993; Friedl, et al, 1992; Pearl 1991; Ropp, 1992; Slavin, et. al, 1988).

Discussion and Recommendations

There currently exists over too known dietary supplement products, and as mentioned earlier, there is no national agency that tests these products before they are placed on the market. Because of the lack of quality testing, it is impossible to say which of these products "work" and which ones don't. And, there are many new products coming out each day. The purpose of this article is to assist educators in taking precautions for themselves, and their students and athletes. We know that young athletes will consider taking dietary supplements, and on many occasions will approach the physical/sports educator as a primary source of information. Legally and ethically, physical/sports educators are bound to keep the best interests of the athletes in mind. With that said, consider the following recommendations:

- Be safe. Focus your advice on sports performance and good nutrition. Recommend strength training using proper technique and healthful eating rather than the use of dietary supplements. Physical/sports educators should recognize that dietary supplementation should not be a substitute for a healthful diet or proper training.
- Familiarize yourself with your schools policies regarding medications and over the counter products such as dietary supplements. If one doesn't exist, consult with school personnel to draft one.
- Work with physicians, registered dieticians, health teachers, and athletic trainers, if possible, to provide *accurate information* to young athletes. Remember, one size does not fit all and each athlete has his or her own individual needs. This team of professionals could even draft and distribute a "Dietary Supplement Handout" based on reputable sources such as the FDA, to educate athletes and their parents about these products.
- Educate yourself with valid, scientific journals, not popular fitness magazines or media advertisements.
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There's no question that some dietary supplements offer great promise. But until we know for sure, play it safe both for yourself and your athletes.

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